IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

WSOU INVESTMENTS, LLC d/b/a BRAZOS LICENSING AND DEVELOPMENT,	§ § §	
	§	CIVIL ACTION No. 6:20-CV-541-ADA
Plaintiff,	§	CIVIL ACTION No. 6:20-CV-544-ADA
	§	
v.	§	
	§	
HUAWEI TECHNOLOGIES USA INC., *et al.*,	§ §	
	§	
Defendants.	§ §	

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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Pursuant to the deadline set forth in the Scheduling Order (Dkt. 34), and the guidelines regarding claim construction set forth in the Order Governing Proceedings in Patent Cases ("OGP") (Version 3.2), Defendants Huawei Technologies USA Inc., *et al.*, (collectively, "Huawei") respectfully submit this Responsive Claim Construction Brief to Plaintiff's ("WSOU's") Opening Claim Construction Brief ("Opening Brief") (*See, e.g.*, -00544, Dkt. 45).[1]

I.   U.S. Patent No. 8,429,480 ("the '480 Patent") (Case No. 6:20-cv-00544)

The '480 Patent is directed to the problem of collisions that may occur during the same uplink subframe between transmissions from one user equipment ("UE") to a base station ("eNB" or "eNodeB"). *See* '480 Patent, Abstract and Figs. 2-3. In particular, the collisions may occur between a new transmission of packets (e.g., Voice over Internet Protocol ("VoIP") packets) as persistently or semi-persistently allocated, and a hybrid automatic repeat request ("HARQ") re-transmission of packets. *See id.,* Figs. 2-3 and 2:27-32. To resolve this problem, the '480 Patent proposed techniques for "performing UE [] specific load balancing among HARQ processes, in particular for the case of semi-persistent scheduling the LTE TDD UL." *Id.,* 6:33-35. In particular, "the re-transmission packet is transmitted during the time at which a collision would occur, and the new transmission packet is dynamically scheduled to a new resource in another, different HARQ process." *Id.,* 6:40-43 and Fig. 3.

A.   "hybrid automatic repeat request process" (claims 1, 2, 5, 6, 7, 9, 11-19)

Huawei's Proposed Construction	WSOU's Proposed Construction
"process implementing a stop and wait protocol and soft combining where in the uplink a UE adjusts the PUSCH transmission	Plain and ordinary meaning

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[1]   This Brief addresses the disputed claim terms (that the parties were collectively permitted to present to the Court for resolution pursuant to the OGP (Version 3.2)) for Case Nos. 6:20-cv-00541 and -00544.

| according to PDCCH and/or PHICH information as detected by the UE" | |

The parties' dispute centers on whether the phrase "hybrid automatic repeat request process" ("HARQ process") is self-defining, and thus should be given its "plain and ordinary meaning." It is not, and thus a construction of "plain and ordinary meaning" is not appropriate for this term. WSOU's Opening Brief makes clear that WSOU's contends that the claimed HARQ process involves "'a new uplink packet transmission' that may potentially collide with 'a hybrid automatic repeat request function'" — which is inconsistent with a HARQ process as defined in the '480 Patent and 3GPP Standards. Opening Brief, at 3. As such, there is a dispute between the parties as to the scope of this term that must be addressed.

i. "Stop and Wait" and "Soft Combining" Are Not Merely Passing References But Are Used to Summarize Fundamental Mechanisms of a HARQ Process

Confusion regarding who collides with what involving a HARQ Process cannot be eliminated without spelling out its fundamental mechanisms in a proposed construction. *See O2 Micro International Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) ("determination [of] a claim term['s] . . . 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute"). The invention of the '480 Patent closely relates to 3GPP Standards. *See* '480 Patent, 4:54-5:59 ("[r]eference with regard to **the teachings of this invention** can be made to 3GPP TS 36.321 v8.2.0 (2008 May) . . . 3GPP TS 36.213 v8.3.0 . . .") (emphasis added).

According to both the specification of the '480 Patent and 3GPP Standards, "stop and wait protocol" and "soft combining" are the fundamental mechanisms of a HARQ process. *See id.*, 2:6-10 ("a hybrid ARQ (HARQ) protocol . . . namely N parallel hybrid ARQ processes, each

implementing a SAW [stop and wait] protocol. Each hybrid ARQ process has a certain amount of

soft buffer memory in order to implement soft combining.") and 4:66-5:4 ("A number of parallel

HARQ processes are used in the UE to support the HARQ entity, allowing transmissions to take

place continuously while waiting for the feedback on the successful or unsuccessful reception of

previous transmissions."); *see also* Ex. 1, 3GPP TS 36.321 v.8.2.0 ("36.321"), §5.3.2.2 ("combine

the received data with the data currently in the soft buffer for this HARQ process") and §5.4.2.1

("A number of parallel HARQ processes are used in the UE to support the HARQ entity, allowing

transmissions to take place continuously while waiting for the feedback on the successful or

unsuccessful reception of previous transmissions."). These are not merely "passing references" as

suggested by WSOU, but are terms used to summarize fundamental mechanisms of a HARQ

process. For example, the specification cites to TS 36.321 and TS 36.213 to explain a HARQ

process where a new transmission or a re-transmission is transmitted in response to the received

ACK/NACK information and/or uplink grant. *See* '480 Patent, 5:4-59.

ii.   Huawei's Proposed Construction is Consistent with the Specification and 3GPP Standards

With respect to "where in the uplink a UE adjusts the PUSCH transmission according to

PDCCH and/or PHICH information as detected by the UE," this phrase is a summary of a HARQ

process as provided by the specification of the '480 Patent, 5:4-59, and is fully supported by the

3GPP Standards. The '480 Patent specifies that a UE would determine whether to proceed with

new transmissions or re-transmissions on PUSCH based on what it receives on PHICH (ACK or

NACK) or PDCCH (e.g., uplink grants). *See id.,* 5:4-59 ("if an uplink grant indicating that the

NDI has been incremented . . . obtain the MAC PDU . . . if an uplink grant, indicating that the NDI

is identical . . . instruct the HARQ process to generate an adaptive retransmission . . . if ACK is

decoded on the PHICH . . . else NACK shall be delivered . . . .") Such a complicated HARQ

process is summarized concisely by 3GPP TS 36.213, v.8.3.0, as follows:

> For FDD, there shall be 8 HARQ processes in the uplink. For FDD, the UE shall upon **detection of a PDCCH with DCI format 0 and/or a PHICH transmission** in subframe *n* intended for the UE, **adjust the corresponding PUSCH transmission** in subframe *n+4 according to the PDCCH and PHICH information*. . .

> For TDD UL/DL configurations 1-6, the UE shall upon **detection of a PDCCH with DCI format 0 and/or a PHICH transmission** in subframe n intended for the UE**, adjust the corresponding PUSCH transmission** in subframe n+k, with k given in Table 8-2, **according to the PDCCH and PHICH information** . . . .

Ex. 2, TS 36.213, § 8 (emphasis added). Huawei's proposed construction thus closely tracks what

has been taught by the specification and disclosed in the 3GPP Standards.

With respect to "in an uplink," WSOU argues that the '480 Patent does not require an

adjustment that must occur within the uplink itself. *See* Opening Brief, at 4-5. However, Huawei's

proposed construction does not require that — it simply provides a concise summary of a HARQ

process in an uplink direction because the claims in the '480 Patent are in the context of uplink,

and Huawei's proposed construction does not exclude the possibility that a HARQ can also be

implemented in a downlink direction. *See e.g.,* '480 Patent, claim 1 ("a collision between an

uplink packet re-transmission and a new **uplink** packet transmission") and claim 11 ("using a

semi-persistently scheduled **uplink** resource") (emphasis added).

WSOU further contends that Huawei's proposed construction is inconsistent with 3GPP

Standards based on WSOU's belief that a new transmission in a HARQ process does not require

"soft combining." *See* Opening Brief, at 6 (citing TS 36.321, §5.3.2.2 and a 3GPP documentation

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dated 2000)[2]. WSOU's assertion is bizarre, and more importantly, is incorrect. "Soft combining"

means "to combine the received data with the data currently in the soft buffer." Ex. 1, TS 36.321,

§5.3.2.2. Without receiving a new transmission and storing it in a soft buffer, there will be nothing

to combine for a re-transmission. In other words, handling a new transmission is also part of a

HARQ process.

iii.   Huawei's Invalidity Arguments in the IPR Petition are Consistent with Huawei's Proposed Construction

WSOU attempts to make much of the fact that Huawei did not construe this term in the

parallel IPR proceedings involving the '480 Patent ("IPR Proceedings"). *See* Opening Brief, at 4.

However, in its IPR petition, Huawei has asserted that multiple prior art references, including

3GPP Standards related documents, discloses a HARQ process. *See generally* Ex. 3, "*Huawei*

Technologies Co., Ltd. v. WSOU Investments LLC d/b/a Brazos Licensing and Development,

IPR2021-00229, Pet. For *Inter Partes* Review" (PTAB filed Nov. 30, 2020) ("IPR Petition").

Therefore, it is unnecessary to construe the current term in the IPR proceedings, and WSOU would

not be prejudiced by any inconsistency as alleged. *See* Ex. 14, *Finjan, Inc. v. Juniper Networks,*

Inc., No. C 17-05659, Dkt. 491, at 10 (N.D. Cal. May 8, 2019) (holding that it is not fatal for the

same expert to further construe a claim term in the district court case although the same term was

not specifically proposed for construction in a parallel IPR proceeding); *see also Shire*

Development LLC, et al., v. Teva Pharmaceuticals USA, Inc., et al., 2019 WL 969638, at *8 (D.

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[2]   The 3GPP documentation cited by WSOU ("3GPP Meeting Document") (*see* Opening Brief, at 6) is not a final 3GPP Standards document. It is a document dated 2000 and is only for discussion. According to the 3GPP Meeting Document, "hybrid ART (HARQ) was approved as one **working item** for Release 2000 work." Ex. D. to Opening Brief, 3GPP Meeting Document, at 1 (emphasis added). In other words, at that time, HARQ has not been standardized into a final Standard document. Further, the "Type I hybrid ARQ without combining" as discussed is "[t]he ARQ method used in the current 3GPP specification." *Id.* In other words, it is an outdated ARQ method (around 2000), and so is not a HARQ implementing soft combining at or around the time of the '480 Patent.

DE. Feb. 28, 2019) (holding that the statements in IPR proceedings and prosecution history are unenlightening when they do not specifically discuss an issue in claim construction).

Further, Dr. Peter Rysavy's declaration in the IPR Proceedings does not offer any characterization or definition of a HARQ process that conflicts with Huawei's proposed construction here as asserted by WSOU. *See* Opening Brief, at 5. For example, it is well known that FEC (forward error correction) upgrades a standard ARQ and facilities "soft combining." Thus, WSOU's reference to Huawei's IPR submission is simply a red herring.

B. "the resources are persistently allocated for transmitting the new uplink packet transmission" (claim 2) [3]

Huawei's Proposed Construction	WSOU's Proposed Construction
Indefinite[4]	Plain and ordinary meaning

i. Claim 2 Fails to Further Limit and is Inconsistent with Claim 1 (Section 112, ¶ 4)

"A dependent claim that contradicts, rather than narrows, the claim from which it depends is invalid." *Multilayer Stretch Cling film Holdings, Inc. v. Berry Plastics Corp.,* 831 F.3d 1350, 1362 (Fed. Cir. 2016) (citing, *inter alia,* 35 U.S.C. § 112(d),[5] and holding that a dependent claim cannot include low density polyethylene homopolymers (LDPE) because the claim it depends upon excludes it); *see also Pfizer, Inc. v. Ranbaxy Labs. Ltd.*, 457 F.3d 1284, 1291-92 (Fed. Cir.

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[3] The terms in claims 6, 9, 12, 15, and 18 as listed by WSOU are not disputed terms. *See* Ex. 4, "Huawei's Preliminary Claim Constructions," at 28 (Huawei's proposed construction for those terms is "[n]o construction necessary").

[4] WSOU asserts that Huawei has failed to provide sufficient notice as to indefiniteness theories. *See* Opening Brief, at 7. To the contrary, Huawei identified those claim limitations that are indefinite in Huawei's Preliminary Invalidity Contentions, which is sufficient according to the OGP and relevant case law. *See* OGP, Dkt. 35, at 2; *see also Ultravision Techs.*, *LLC v. Lamar Advert*. *Co*., 2017 WL 3836139, at *1 (E.D. Tex. Apr. 18, 2017) (holding that contentions only need to provide "adequate notice and information with which each party can litigate their cases").

[5] 35 U.S.C. § 112(d) substantially corresponds to pre-AIA 35 U.S.C. § 112, ¶ 4. *See Multilayer Stretch Cling Film Holding, Inc.,* 831 F.3d at 1366 (fn. 8).

2006) (holding that a dependent claim cannot cover salts of atorvastatin acid because the claim it depends upon only claims atorvastatin acid and not the salts of atorvastatin acid). Here, independent claim 1 of the '480 Patent requires "the hybrid automatic repeat request function *dynamically* allocating resources for transmitting the new uplink packet transmission in a different hybrid automatic repeat request process." '480 Patent, claim 1 (emphasis added). To the contrary, claim 2, which depends from claim 1, requires that the same "resources are *persistently* allocated for transmitting the new uplink packet transmission in the different hybrid automatic repeat request process. *Id.,* claim 2 (emphasis added). As will be shown below, the same resources cannot be "dynamically" and "persistently" allocated for the same new uplink packet transmission in the same hybrid automatic repeat request process. As such, claim 2 is indefinite.

The specification of the '480 Patent explicitly provides that dynamically and persistently allocating resources are two distinct ways of resource allocation — resources can be either dynamically scheduled/allocated by L1/L2 signaling, or persistently pre-defined. For example, the specification states "[s]emi-persistent scheduling has also been agreed to for use in LTE, in particular for VoIP service, wherein initial/new transmissions of voice packets are *persistently* allocated (a set of resources in every 20 ms are predefined) and re-transmissions of packets are *dynamically* scheduled by Layer 1/Layer 2 signaling." *Id.,* 2:27-32 (emphasis added); *see also* 7:7-11 ("It can be further noted that only a new transmission that has collided with a re-transmission need be *dynamically* scheduled to another HARQ process, as other new transmissions can occur in the *persistent* fashion in process #1 if the loading in HARQ process #1 is reasonable.") (emphasis added).

The above-identified disclosures are also consistent with statements in the 3GPP Standards documents and are otherwise known by a POSITA. *See* Ex. 5, "Declaration of James A. Proctor

regarding Claim Construction," at ¶¶ 32-36. Since dynamic and persistent allocations are two

dissimilar ways of resource allocation, "the resources" that have been dynamically allocated for

transmitting the new uplink packet transmission as required by claim 1 cannot be further limited

by being persistently allocated as required by claim 2. *See id.,* at ¶¶ 37-43.

The issue with claim 2 was also raised during the prosecution of an EP counterpart to the

'480 Patent ("EP Patent").[6]   Specifically, the EP examiner stated that "since they refer to

'persistently allocating' resources, which have been defined to be 'dynamically allocated' in the

independent claim on which they depend. ***There appears to be a contradiction, as dynamically***

***and persistently are mutually exclusive*.** Ex. 6, "01/19/2011 Communications from Examining

Division," at 2 (emphasis added). In response, the patent applicant largely revised claim 2 to

clarify that "the persistent allocation is for the re-transmissions and takes place only after the

hybrid automatic repeat request function has dynamically allocated the new resources to the new

uplink packet transmission." Ex. 7, "02/05/2011 Response to Communications," at 3 (excerpt

reproduced below).

> 2.   The method according to claims 1, wherein the resources <u>for the re-</u>
> <u>transmissions of the new uplink packet transmission (3E), whose transmission has</u>
> <u>been delayed,</u> are persistently allocated <s>for transmitting the new uplink packet</s>
> <s>transmission (3A, 3E)</s> in the different <u>sub-frame corresponding to the different</u>
> hybrid automatic repeat request process.

The patent applicant's response demonstrates two things: (1) the patent applicant acknowledged

the conflict between claims 1 and 2, and (2) understood that persistent and dynamic allocations are

distinct by stating that resources for transmitting the new uplink packet transmission are

dynamically allocated, but its re-transmissions are persistently allocated.

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[6]   EP Application No. 08835383.4 (later granted as EP Pat. No. 2201717).

Importantly, claim 2 in the EP Patent (before being revised to overcome the rejections) was substantially the same as claim 2 in the '480 Patent. Therefore, EP prosecution history is very relevant to the present dispute. *See Tanabe Seiyaku Co., Ltd v. U.S. I.T.C.*, 109 F.3d 726, 733 (Fed. Cir. 1997) (explaining that evidence from a foreign procedure should be considered when it is relevant to the present proceeding); *see also Gillette Co. v. Energizer Holdings, Inc.,* 405 F.3d 1367, 1374 (Fed. Cir. 2005) (relying upon the patent applicant's own endorsement during EP prosecution to construe the claims). Moreover, the EP examiner's rejections were based on the "technical" difference between dynamic and persistent allocations — which, like 3GPP Standards, is not related to any differences in US and EP patents laws, but are instead universal. Further, the communications from the EP examiner is cited on the face of the '480 Patent and was submitted in Information Disclosure Statements during the '480 Patent prosecution and so should be considered as part of the intrinsic evidence. *See V-Formation, Inc. v. Benetton Grp. SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005); *see also Markman v. Westview Instruments, Inc.,* 52 F.3d 967, 980 (Fed. Cir.1995) (stating the claims must be construed in light of the specification and the patent's prosecution history). Based on the foregoing, dependent claim 2 is indefinite under 112, ¶ 4.

ii.   Claim 2 Fails to Inform a POSITA of the Scope of the Invention to a Reasonable Certainty (Section 112, ¶ 2)

Claim 2 is further invalid because it fails to inform a POSITA of the scope of the invention. *See Nautilus, Inc. v. Biosig Instruments, Inc*., 134 S. Ct. 2120, 2124 (2014). Since claim 2 depends from claim 1, claim 2 actually requires:

> detecting with a hybrid automatic repeat request function a collision between an uplink packet re-transmission and a new uplink packet transmission within a hybrid automatic repeat request process; and
>
> in response, the hybrid automatic repeat request function ***dynamically allocating resources*** for transmitting the new uplink packet transmission in a different hybrid automatic repeat request process that does not collide with the uplink packet re-

transmission, wherein ***the resources are persistently allocated*** for transmitting the new uplink packet transmission in the different hybrid automatic repeat request process.

'480 Patent, Claims 1-2 (emphasis added). A POSITA cannot ascertain whether "the resources" are dynamically or persistently allocated in response to a collision because as detailed above, dynamic and persistent allocations are mutually exclusive methods for allocating resources. *See* Section I.B.i; *see also* Ex. 5, Declaration of James A. Proctor regarding Claim Construction, at ¶¶ 44-45. The specification or prosecution history cannot resolve the conflict because they merely confirm the contradiction. *Id.* As such, claim 2 is (doubly) indefinite and therefore invalid.

II.   U.S. Patent No. 9,084,199 ("the '199 Patent") (Case No. 6:20-cv-00541)

The '199 Patent generally relates to "baseband signal processing and resource management" in high-speed wireless communication systems. *See* '199 Patent, Abstract, 1:8-10. Within high-speed data transmissions, there exist overhead channels that carry quality and control information. *See id.,* 1:20-22. This information includes, among other things, "link quality indication, decoding acknowledgment and rate control commands." *Id.,* 1:22-24. In particular, there exists the Reverse Link Channel Quality Indicator Channel (R-CQICH) to "support the high speed Forward Link Packet Data Channel" and to carry "information for the Forward Link high rate packet data scheduling and call switching." *Id.,* 1:25-31. During high-speed transmissions, wireless units continuously transmit Channel Quality Indicator (CQI) reports to the base station via the R-CQICH. *See id.,* 1:32-34, 6:23-44. "The CQI reports are measurements of the Forward Link (FL) pilot energy at the wireless unit." *Id.,* 1:34-35. Thus, it is the quality of R-CQICH that is important for system throughput making it advantageous to reduce the power consumed by the R-CQICH to improve the overall system capacity. *Id.,* 3:21-31.

Therefore, the '199 Patent specifically states that one of its principal objects is to determine the optimized CQI channel configurations based on different system deployment scenarios because

"the 3GPP2 standard does not provide a mechanism for determining how to dynamically adjust the CQI system or **CQI channel configurations** based on different system deployment scenarios." *Id.*, 2:48-53 (emphasis added). The '199 Patent thus claims to disclose and teach systems and methods for dynamically adjusting the CQI channel (i.e., R-CQICH) based on the comparison between quality metrics of the R-CQICH carrying the CQI and thresholds. *Id.*, 4:14-17. Before performing the dynamic adjustment of the R-CQICH, however, the base station needs to generate the quality metrics of the R-CQICH and compare the generated quality metrics of the R-CQICH to thresholds, and then determine whether to dynamically adjust the R-CQICH channel based on the comparison. *See id.*, 6:34-7:5.

A.   **"associated with a quality of the received CQI" (claims 1, 9) / "associated with a quality of the received channel quality indicator (CQI)" (claim 15)**

Huawei's Proposed Construction	WSOU's Proposed Construction
"associated with a quality of the received CQI channel"	Plain and ordinary meaning

As is evident by the inconsistent and unclear use of the phrase "quality of the received channel quality indicator" within the relevant claims themselves, a construction of "plain and ordinary meaning is not appropriate" for these terms. *See O2 Micro Int'l Ltd.*, 521 F.3d at 1361 ("[a] determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one 'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute."). The concept of associating *quality* metrics with "a *quality* of a received [channel *quality* indictor] is nonsensical – the CQI is an indicator and does not itself have a "quality."

Thankfully, the specification of the '199 Patent clears up the confusion by explaining that the generated quality metrics are those associated with the CQI **channel,** and by consistently using

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the phrase "CQI channel" when referring to the generated metrics, the specification clarifies that the claimed metrics are those for the CQI *channel*. *See e.g.*, '199 Patent, 3:43-44 ("Accordingly, it may be advantageous to generate frame based CQI *channel* quality metrics for differential reports in addition to the full reports.") (emphasis added); 3:55-58 ("Accordingly, under the present techniques, metrics may be provided for full and differential modes to maintain the quality of the R-CQICH. These metrics may be utilized to dynamically adjust system or CQI *channel* configurations and power settings.") (emphasis added); 4:2-4 ("The updated CQI *channel* or system configurations may affect both the base station and the wireless unit.") (emphasis added) Huawei's proposed construction should thus be adopted because it clarifies the "quality of a quality" ambiguity that the "plan and ordinary meaning" fails to resolve.

WSOU's Opening Brief takes issue with Huawei's proposed construction because of the inclusion of the word "channel" in Huawei's proposed construction, and contends that this term is not required by the claim language. *See* Opening Brief, at 9. Yet Huawei's inclusion of the word "channel" clarifies that these limitations are directed to the "quality of the received CQI *channe*l," or, put another way, the "quality of a *channel* carrying the received CQI," rather than a "*quality* of a [channel *quality* indicator]." Huawei's construction further clears up the inherent ambiguity that necessarily results from a "plain and ordinary" reading of these phrases – requiring a "quality of a quality." The word "channel," drawn from the specification, is required to understand what is meant by the otherwise ambiguous phrase and defines the meaning of "quality of the received CQI."[7]

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[7]   WSOU's only other complaint against Huawei's construction is the lack of the definite article "the." That issue, however, is a red herring, as the omission is due to a simple typo made during the parties' exchange of proposed constructions. As clarified above, Huawei's proposed construction for this phrase is "associated with a quality of the received CQI channel."

Should the Court adopt WSOU's proposed construction of "plain and ordinary meaning," the purpose of the invention would be frustrated. The specification of the '199 Patent demonstrates that it is the quality metrics of the R-CQICH channel carrying the CQI that are to be used for the purpose of dynamically adjusting the CQI channel configuration. *See* '199 Patent, 10:6-16. However, WSOU's proposed construction of "plain and ordinary meaning" would result in the generated quality metrics being associated with quality metrics indicated by the CQI itself. However, these are measurements of the Forward Link (FL) pilot energy at the wireless unit and cannot be used as the basis to dynamically adjust the CQI channel configurations. *See id.,* 1:20-38. For at least these reasons, Huawei's proposed construction should be adopted.

B.   "dynamically adjust a CQI channel configuration based on the comparison" (claims 1, 9)

Huawei's Proposed Construction	WSOU's Proposed Construction
"a closed-loop process which dynamically adjusts a CQI channel configuration based upon the comparison of the short term or long term quality metrics"	Plain and ordinary meaning

Huawei's proposed construction for this disputed term provides clarity regarding the meaning of "dynamically adjust a CQI channel based on the comparison," as that term is defined in the intrinsic record of the '199 Patent. As a construction of "plain and ordinary meaning" fails to provide any such clarity, Huawei's proposed construction should be adopted by the Court.

The specification of the '199 Patent explains the concept of dynamic adjustment with reference to functionality performed by "decision making unit 34." The specification explains that:

> The decision making unit 34 may analyze the received metrics against various settings or thresholds to determine whether to adjust various system configurations. … By comparing the metrics to the thresholds, the decision making unit 34 may determine when to adjust the system configurations to account for changes in the

CQI. … Then, the adjusted configuration parameters are determined, the new settings may be send to the wireless unit 18 via a FL signal channel to update the R-CQICH configuration in the wireless unit 18. The same configuration may also be sent to the local CQI recover/decoding unit 30 to ensure the receiving process matches with the transmissions of wireless unit 18. As a result, the decision making unit 34 may provide a closed loop approach that dynamically updates system configurations in the base station 12 and wireless unit 18 to improve the overall system performance.

'199 Patent, 6:50-7:5. The "metrics" analyzed by decision making unit 34 are the claimed short term and long term quality metrics. *See id.*, 6:47-49 ("The metrics may include short-term quality metrics and long-term quality metrics for both full and differential modes."). Notably, this is the only description in the '199 Patent regarding the concept of dynamically adjusting a CQI channel configuration based on the comparison of long and short term metrics.

Indeed, during prosecution, the patent applicants explained what they meant by "dynamically adjust a CQI channel configuration based on the comparison," through specific citations to the specification. *See* Ex. 8, "Appl. Ser. No. 10/954,755, 8/11/09 Appeal Brief," at 3-4. The patent applicants specifically pointed to the submitted specification at page 14, lines 17-22 and page 15, lines 5-7. *Id.* Importantly, those are the precise sections that Huawei relies upon now and that further explain that it is a "closed-loop process." *See* Ex. 9, "Appl. Ser. No. 10/954,755, Patent Application Transmittal," at pp. 14-15. This lone disclosure fully supports Huawei's proposed construction.

WSOU's only two disputes with Huawei's construction are the inclusion of a "closed loop process" and a "comparison of the short term or long term quality metrics." *See* Opening Brief, at 10-11. However the "closed loop" process is drawn precisely from the only passage the patent applicants relied on as explaining the dynamic adjustment process, as shown above. And the concept of "short term or long term quality metrics" is drawn from ***the claim language itself***. Claims 1 and 9 specifically state the quality metrics comprise short term and long term quality

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metrics. And the antecedent "comparing" step in each claim is performed on "at least one of the quality metrics." Therefore, by necessity, the comparison must be "of the short term or long term quality metrics." Huawei's clarification of how the "dynamic" process proceeds and what is compared are thus both drawn directly from the intrinsic record.

Contrary to WSOU's assertions, Huawei's proposed construction is not an attempt to limit the patent to the lone disclosed exemplary embodiment (*see* Opening Brief, at 10), but rather to provide clarity to a vague term and define that term consistent with the patent's written description.[8] WSOU's default to a "plain and ordinary meaning" construction provides no clarity as to the meaning of the otherwise ambiguous phrase "dynamically adjust[ing]" the channel, much less the needed clarity in context of the claim and intrinsic record.

Lastly, WSOU's contention that Huawei's proposed construction is at odds with its statements in the pending IPR is misplaced. The PTAB has repeatedly explain that "claim terms need only be construed 'to the extent necessary to resolve the controversy'" for the particular grounds in the IPR petition. *See Wellman Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011). No construction of this term is necessary in order to resolve the controversy present in Huawei's IPR Petition and to establish that the alleged inventions of the '199 Patent were well known in the prior art. However, there is a controversy here that warrants construction, and clarification of this claim term would prove helpful to the jury, who may not otherwise understand

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[8]   *See Phillips v. AWH Corp.,* 415 F.3d 1303, 1315 (Fed. Cir. 2005) (holding that the specification "is the single best guide to the meaning of a disputed [claim] term."); *see also Retractable Technologies, Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, (Fed. Cir. 2011) (Fed. Cir. 2011) ("[i]n reviewing the intrinsic record to construe the claims, we strive to capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention.").

what "dynamically adjusting" means in the context of the '199 Patent. The same is not necessarily

true for the PTAB, a specialized body trained in the subject matter and patent law.

> **C.** **"generated by filtering frame based quality metrics over a plurality of frames" (claim 1) / "generated by filtering frame based quality metrics over a period of more than one frame" (claim 9)**

Huawei's Proposed Construction	WSOU's Proposed Construction
"created by processing frame based quality metrics over a plurality of frames in order to reject those long-term soft decision quality metrics that are unwanted"	Plain and ordinary meaning

The parties' dispute centers around what is meant by "*filtering* frame based quality

metrics" in the context of the claims.[9] Importantly, the intrinsic record does not define what is

meant by "filtering frame based quality metrics," and WSOU's ignores the fact that in prosecution

history, the patent applicants disclaimed potential definitions of "filtering."

Specifically, during prosecution of the application that would eventually issue at the '199

Patent, the PTO rejected the application on multiple occasions in view of several difference prior

art references, which the examiner found disclosed the concept of filtering.[10] With respect to the

Gholmeih and Servais references, the patent applicants distinguished these references by arguing

that the '199 Patent's concept of "filtering" encompassed more than "generating metrics associated

with the received data frames, averaging those metrics, and mapping the averaged metrics to

provide a bit error rate estimate." Ex. 8, "Appl. Ser. No. 10/954,755, 08/11/2009 Appeal Brief,"

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[9]   WSOU's Brief attempts to mischaracterize this dispute as one over "why the long-term quality metrics are generated." Opening Brief, at 12. In reality, the central dispute is over the definition of "filtering," and Huawei's construction resolves that dispute.

[10]   *See* Ex. 10, "Appl. Ser. No. 10/954,755, 05/21/2007 Office Action," at 2-7 (rejection in view of Gholmieh); Ex. 11, "Appl. Ser. No. 10/954,755, 12/10/2008 Office Action," at 3 (rejection in view of Gholmieh in view of Servais); Ex. 12, "Appl. Ser. No. 10/954,755, 11/13/2009 Office Action," at 3 (rejection in view of Duan).

at 7 ("The portion of Servais cited by the Examiner as teaching long-term soft decision quality metrics generated by filtering frame based quality metrics over a plurality of frames appears, at best, only to teach generating metrics associated with received data frames, averaging those metrics, and mapping the averaged metrics to provide a bit error rate estimate."). WSOU's "plain and ordinary meaning" construction fails to take into account this disclaimed scope regarding the meaning of "filtering."

In view of these prosecution history statements, a construction of "plain and ordinary meaning" is inappropriate.[11]   The correct construction for this term must address the patent applicants' disavowal with regard to what "filtering" means within the context of the '199 Patent. Huawei's proposed construction does just that by referencing the common definition of the term – processing or accessing items in order to reject those that are unwanted. *See* Ex. 13, Webster's New World College Dictionary (4th ed. 1999), at 530, definition of "filtering". Huawei's proposed construction should therefore be adopted by the Court.[12]

D. **"means for generating soft decision quality metrics from a decoding process for received channel quality indicator (CQI)" (claim 9)**

Huawei's Proposed Construction	WSOU's Proposed Construction
Subject to 35 U.S.C. § 112, ¶ 6	Subject to 35 U.S.C. § 112, ¶ 6
Structure: a base station that includes a CQI recovery/decoding unit, a CQI metric	Structure: CQI recovery/decoding unit; CQI metric generation unit; and equivalents thereof.

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[11]   *See Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002) (holding that a "patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.").

[12]   WSOU's only other complaint is regarding the different ending phrases in claims 1 and 9 – "plurality of frames" versus "period of more than one frame." Opening Brief, at 12. WSOU presents no meaningful difference between the two phrases, and the common understanding of plurality is "two or more" (i.e., more than one).

| generation unit using the algorithm(s) of 13:58-15:38, and equivalents thereof.[13] | |

The parties agree that this term is subject to construction under 35 U.S.C. § 112, ¶ 6, and that the function is "generating soft decision quality metrics from a decoding process for a received channel quality indicator (CQI)." While the parties agree that there is "corresponding" structure disclosed in the specification that is clearly linked to and can accomplish the claimed function, the parties dispute which structure that is. The dispute between the parties is thus whether the "algorithms(s) of 13:58-15:38" and "base station," as proposed by Huawei, are corresponding structure.

The parties appear to agree that the specification clearly links the CQI recovery/decoding unit and CQI metric generation unit as the components that are necessary to perform the claimed function. Huawei's inclusion of the algorithms as defined at 13:58-15:38 results from the fact that the specification of the '199 Patent explicitly identifies the algorithm within this portion of the specification as the algorithm that performs the recited function when discussing the implementation of the invention of the '199 Patent. For example, the patent provides that "[t]he CQI frame quality soft decision metrics are generated by the CQI metric generation unit 32, as discussed above," and then proceeds to explain in detail the process by which the CQI frame quality soft decision quality metrics are generated, including the calculation and accumulation of erasure metrics. '199 Patent, 13:58-14:18-19. The specification continues by explaining the algorithms that are used during non-switching periods (13:58-14:64), and switching periods

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[13]   Huawei originally indicated that the "decision making unit 34" was corresponding structure for this claim limitation. However, after further consideration, Huawei has determined that the "decision making unit 34" is not corresponding structure. Huawei has conversely added the text from the '199 Patent, 13:58-15:38, which corresponds to the generation of soft decision metrics, and thus is proper corresponding structure.

(14:65-15:18). It is this disclosure of algorithmic structure in combination with the disclosure of the CQI recovery/decoding unit and the CQI metric generation unit that properly inform a person of ordinary skill in the art what structures are needed to perform the claimed function.

To the extent WSOU argues that the algorithms in the identified portion of the specification are unnecessary, it is important to note that the two identified units – the CQI recovery/decoding unit and the CQI metric generation unit – do not have any generally understood meaning in the art, are not defined in the specification, and are not defined in any dictionary or extrinsic evidence provided by WSOU. Thus, at best, they are special purpose computer components that do not, by themselves, connote sufficient structure to a person of ordinary skill in the art. It is therefore necessary for a particular algorithm to be included in the corresponding structure.[14]

Likewise, with regards to WSOU's contention about the inclusion of a base station, the language of claim 9 dictates that there must be a "***system*** which ***comprises*** . . . means for determining whether to dynamically adjust a CQI channel configuration based on the comparison." '199 Patent, 16:15-27 (emphasis added). The only system disclosed in the '199 Patent that comprises the CQI recovery/decoding unit and the CQI metric generation unit is a base station. *Id.* at FIG. 1; FIG. 8; 5:14-24; 6:25-33; and 10:6-16. The inclusion of a base station is therefore proper and necessary.[15] Accordingly, Huawei's proposed construction should be adopted by the Court.

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[14]   *See Williamson v. Citrix Online, LLC,* 792 F.3d 1339, 1352 (Fed. Cir. 2015) (*en banc*) (holding that "[i]n cases such as this, involving a claim limitation that is subject to § 112, para. 6 that must be implemented in a special purpose computer, this court has consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.")

[15]   *See Mettler-Toledo, Inc. v. B-Tek Scales, LLC,* 671 F.3d 1291, 1296 (Fed. Cir. 2012) ("If a patentee chooses to disclose a single embodiment, then any means-plus-function limitation will be limited to the single disclosed structure and equivalents thereof.").

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic

service are being served with a copy of this document via the Court's CM/ECF system.

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/s/ Jason W. Cook
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